

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

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NOTES ON THREE CLUPEOID FISHES COLLECTED  
BY EDMUND HELLER IN SAN FILIPE BAY,  
GULF OF CALIFORNIA.

BY CARL L. HUBBS.

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Several specimens of clupeoid fishes (herrings and anchovies), collected by Edmund Heller in San Filipe Bay on the gulf coast of Lower California, are now deposited in the Field Museum of Natural History. These include the types of a new species of *Anchoviella*, named for the collector, and topotypes of a nominal species, which this added material shows to be a synonym of *Cetengraulis mysticetus*.

1. *Opisthonema libertate* Günther.

Three specimens, each with 20 anal rays.

2. *Anchoviella helleri*, new species.

*Relationships*.—*Anchoviella helleri* closely resembles *naso*, *starksi*, *cultrata* and *delicatissima*, differing from each in details of form and proportions, and in the number of fin-rays, gill-rakers, etc.

*Holotype*.—A specimen 78 mm. long to caudal base, taken by Edmund Heller (for whom the species is named), with two slightly smaller paratypes, in San Filipe Bay, Gulf of California; Cat. No. 3332, Field Museum of Natural History.

*Description*.—Body slender, the contours weakly arched; greatest depth, 4.9 (to 5.2) in length to caudal base; least depth of caudal peduncle, 2.8 (2.8 to 3.2) in length of head; belly rounded both before and behind pelvic fins, but scarcely carinate. Head slender and rather long, its length to end of opercle being contained 3.65 times in length to caudal; its greatest depth, below occiput, 1.8 (1.65 to 1.75) in its length. Snout long, abruptly produced beyond upper jaw and nostrils, rounded terminally; its length slightly less than diameter of eye, 5.5 (to 4.5) in head; length of eye, 4.5 (4.2 to 4.3). Maxillary long, tapering behind its subterminal dilation to its extreme rounded tip; nearly extended to gill opening. Teeth developed in both jaws, all directed vertically. Cheek an acute triangle, its base half the distance from its apex to middle of pupil; opercle oblique, oblong, about one-third as wide as deep. Gill-rakers dentate, bluntly pointed, comparatively short and widely spaced, the longest not quite so long as eye; their number, 18+18 (to 18+20).

Scales deciduous anteriorly; in 40 rows from gill opening to caudal base.

Dorsal rays, excluding anterior rudiments, 13 (13 or 14); anal, 19 (19 or 20). Origin of dorsal midway between end of hypural and middle of snout (or front of orbit); height of dorsal 1.6 (to 1.7) in head, about one-fifth longer than base of fin. Height of anal about equal to length of dorsal base; base of anal as long as distance from middle of eye to insertion of pectoral fin. Pectorals 1.7 (to 1.8) in head, not reaching to pelvic fin; the latter a little longer than half the interspace between pelvic insertion and anal origin, or a little longer than distance from tip of snout to posterior border of pupil.

Lateral band brilliant and sharply distinct, bordered above with black, narrowed in both directions from the middle of its length; its greatest width equal to length of snout. Sides and lower surfaces of head, and iris, also bright silvery; upper surface of head punctulate, the occiput and nape blackish; vertebral streak consisting of irregular rows of dots before dorsal, and of two blackish streaks behind dorsal, becoming most conspicuous along the upper procurent caudal rays; no conspicuous punctulations along base of anal fin; caudal dark-edged, the other fins pale.

### 3. *Cetengraulis mysticetus* Günther.

*Stolephorus opercularis* Jordan & Gilbert, Proc. U. S. Nat. Mus., 4, 1881 (1882), p. 275 (San Filipe Bay, Lower California; description); Jordan & Evermann, Bull. U. S. Nat. Mus., 47, pt. 1. 1896, p. 445 (after Jordan & Gilbert); Gilbert, Proc. U. S. Nat. Mus., 13, 1890, p. 449 (Panama record).

*Anchovia opercularis* Gilbert & Starks, Mem. Calif. Acad. Sci., 4, 1904, p. 42 (after Gilbert).

Three anchovies, topotypes of *Stolephorus opercularis*, described from injured specimens, were collected by Edmund Heller at San Filipe Bay, Lower California. Having the branchiostegal membranes broadly united, they are referable to the genus *Cetengraulis*, and to the species *mysticetus* of the Panama region.

These specimens from the Gulf of California confirm the differences which Gilbert & Starks (*l. c.*, p. 47) observed in comparing *mysticetus* with its Atlantic representative *edentulus*. The following figures are given for comparison with those published by Gilbert and Starks.

#### *Measurements in hundredths of length without caudal.*

Length to end of hypural, mm.	102	101	93
Head (to end of subopercle)	34	33.5	33.5
Depth of body	27	26.5	24.5
Diameter of orbit	7.5	7.5	7.5
Length of maxillary	20	20	19.5
Length of snout	4.5	4	4
Greatest length from preopercular ridge to gill opening	15	15	16
Number of dorsal rays	14	14	14
Number of anal rays	20	-----	20
Number of scales	43	43	40